

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) An interference cancellation method for a mobile station in a radio cell of a CDMA cellular system, including the steps of

maintaining a list of intracell interferers to the mobile station;

detecting intercell interferers to the mobile station;

adding each detected intercell interferer that fulfils a predetermined selection criterion to said list; and

performing, based on information about the interferers in said list, interference cancellation for all interferers in said list.

2. (Original) The method of claim 1, including the step of using handover related information available in the mobile station for detecting intercell interferers.

3. (Currently Amended) The method of claim 1 ~~or~~ 2, including the steps of measuring received interfering signal power from intercell interferers using the same frequency band as the mobile station;

adding to said list only intercell interferers having a measured received interfering signal power that exceeds a predetermined power level.

4. (Currently Amended) The method of claim 1 ~~or~~ 2, including the steps of determining the cross-correlation between a desired signal and signals from intercell interferers;

adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level.

5. (Currently Amended) The method of claim 1 ~~or~~ 2, including the following steps for each intercell interferer to be included in said list:

determining a channel estimate;

determining a channelization code;

determining a scrambling code;

forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list.

6. (Original) An interference cancellation apparatus for a mobile station in a radio cell of a CDMA cellular system, including

means for maintaining a list of intracell interferers to the mobile station;

means for detecting intercell interferers to the mobile station;

means for adding each detected intercell interferer that fulfils a predetermined selection criterion to said list; and

means for performing, based on information about the interferers in said list, interference cancellation for all interferers in said list.

7. (Original) The apparatus of claim 6, including means for using handover related information available in the mobile station for detecting intercell interferers.

8. (Currently Amended) The apparatus of claim 6 ~~or~~ 7, including

means for received interfering signal power from intercell interferers using the same frequency band as the mobile station;

means for adding to said list only intercell interferers having a measured received interfering signal power that exceeds a predetermined power level.

9. (Currently Amended) The apparatus of claim 6 or 7, including the steps of
means for determining the cross-correlation between a desired signal and signals from intercell interferers;

means for adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level.

10. (Currently Amended) The apparatus of claim 6 or 7, including the following steps for each intercell interferer to be included in said list:

determining a channel estimate;

determining a channelization code;

determining a scrambling code;

forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list.

11. (Original) A mobile station for a CDMA cellular system, including
means for maintaining a list of intracell interferers to the mobile station;
means for detecting intercell interferers to the mobile station;
means for adding each detected intercell interferer that fulfils a prede-termined selection criterion to said list; and

means for performing, based on information about the interferers in said list,
interference cancellation for all interferers in said list.

12. (Original) The mobile station of claim 11, including means for using handover
related information available in the mobile station for detecting intercell interferers.

13. (Currently Amended) The mobile station of claim 10 ~~or 11~~, including
means for measuring received interfering signal power from intercell interferers
using the same frequency band as the mobile station;

means for adding to said list only intercell interferers having a measured received
interfering signal power that exceeds a predetermined power level.

14. (Currently Amended) The mobile station of claim 10 ~~or 11~~, including the steps
of

means for determining the cross-correlation between a desired signal and signals
from intercell interferers;

means for adding to said list only intercell interferers having a determined cross-
correlation that exceeds a predetermined cross-correlation level.

15. (Currently Amended) The mobile station of claim 10 ~~or 11~~, including the
following steps for each intercell interferer to be included in said list:

determining a channel estimate;

determining a channelization code;

determining a scrambling code;

forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list.